

SB 375: A Public Health Perspective

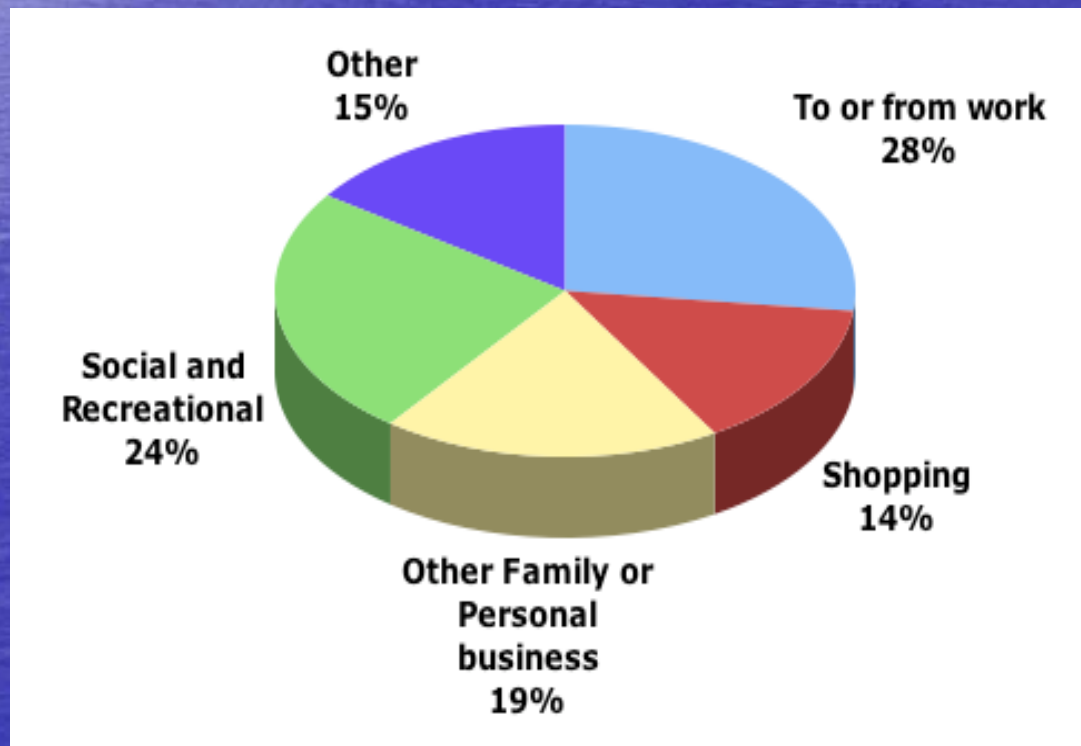
John Balmes, MD
UCSF and UC Berkeley

SB 375

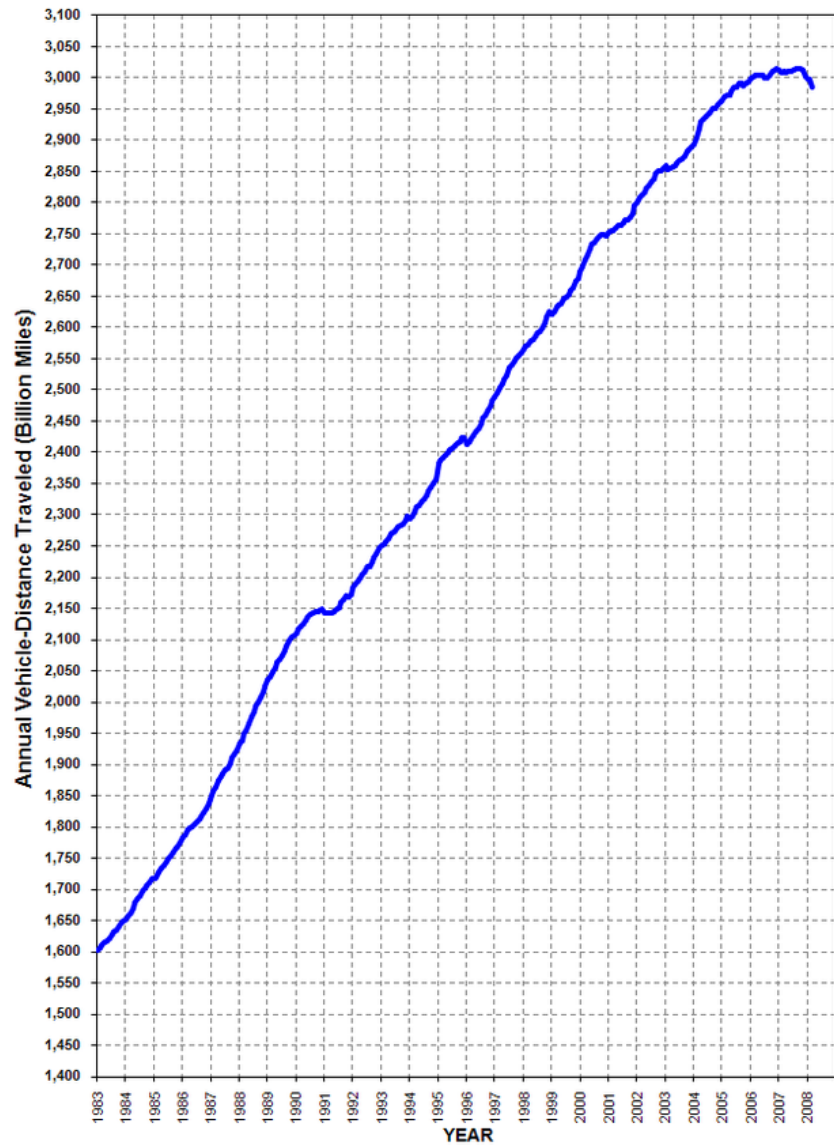
- SB 375 was designed to be a part of the state's policies to mitigate climate change.
- CARB was authorized to decrease greenhouse gas emissions from cars and light trucks by setting targets for the 18 metropolitan planning organizations (MPOs) in California.

SB 375

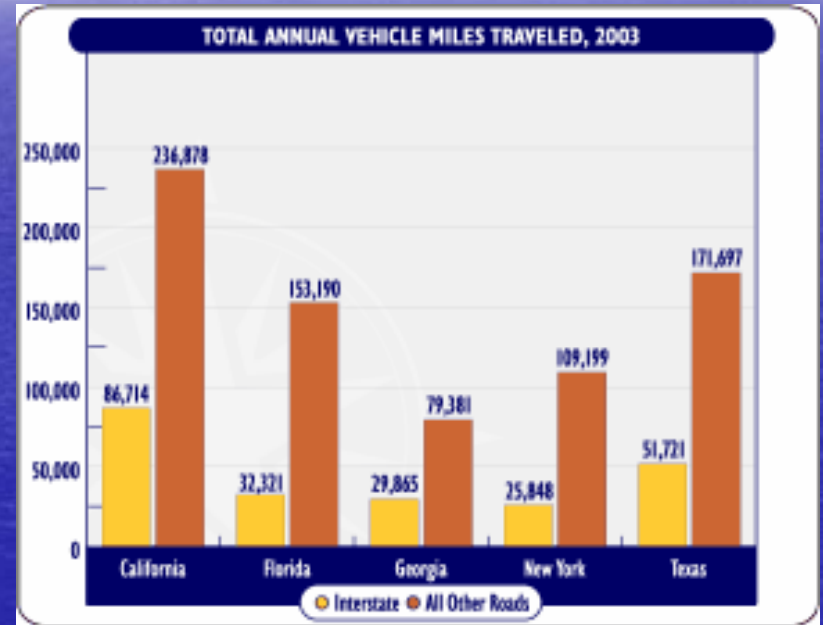
- The targets for the MPOs translate into reduced vehicle miles traveled (VMT)



Monthly VMT Moving 12-Month Total on ALL Roads



VMT



SB 375

- A co-benefit of reducing VMT is decreased traffic-related air pollution.

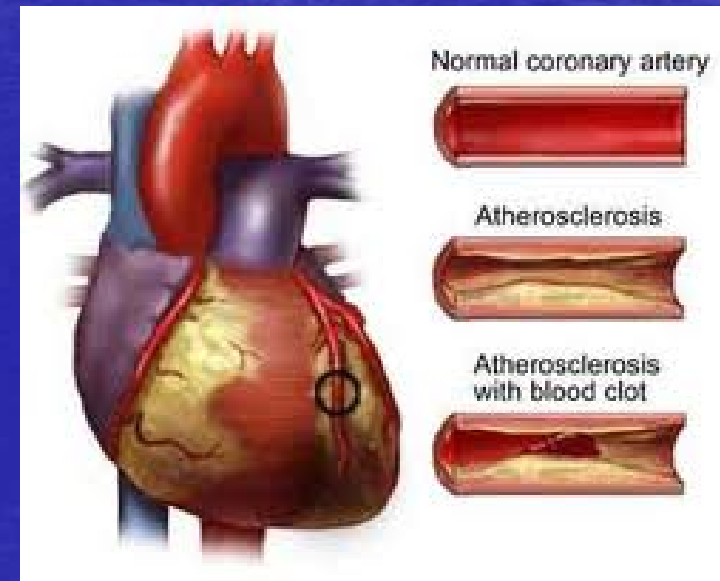


Traffic-Related Air Pollution

- Fine particulate ($PM_{2.5}$) and gases (NO_x , CO, VOCs)
- Major health effects
 - Asthma (new onset and exacerbation of preexisting disease)
 - Cardiovascular disease (morbidity and mortality)

Cardiovascular Disease

- The #1 cause of death in the U.S.
- Atherosclerosis
- Risk factors for atherosclerosis
 - Family history
 - High cholesterol (LDL-C)
 - Hypertension
 - Diabetes
 - Smoking



SB 375

- Gives MPOs the opportunity to redesign communities to provide incentives for active commuting (walking, biking)



Exercise

- Exercise can decrease risk of adverse cardiovascular outcomes.
 - Can increase “good” cholesterol (HDL-C)
 - Can lower blood pressure
 - Helps weight reduction



SB 375

- A potential co-benefit of the “smart growth” approach encouraged by SB 375 is to increase green space.
- Time spent in green space also has positive health benefits.



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- One approach to meeting MPO targets for VMTs is urban in-fill with higher density residential buildings and shops along transportation corridors.
- This approach can reduce regional traffic-related air pollution, but may expose the people living along the corridor to higher levels of emissions.

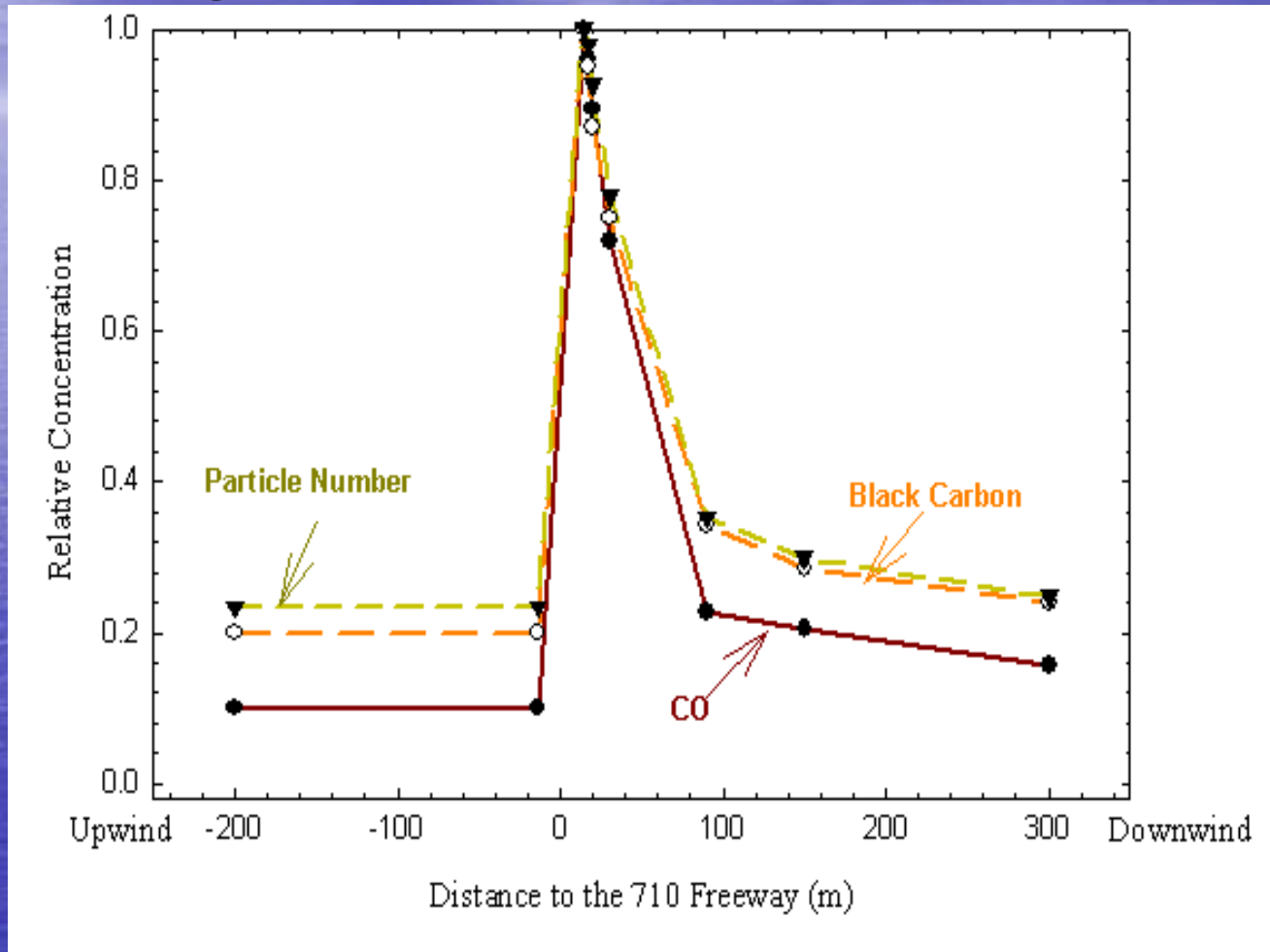


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- Not all communities are impacted equally by traffic-related air pollution, especially diesel emissions.

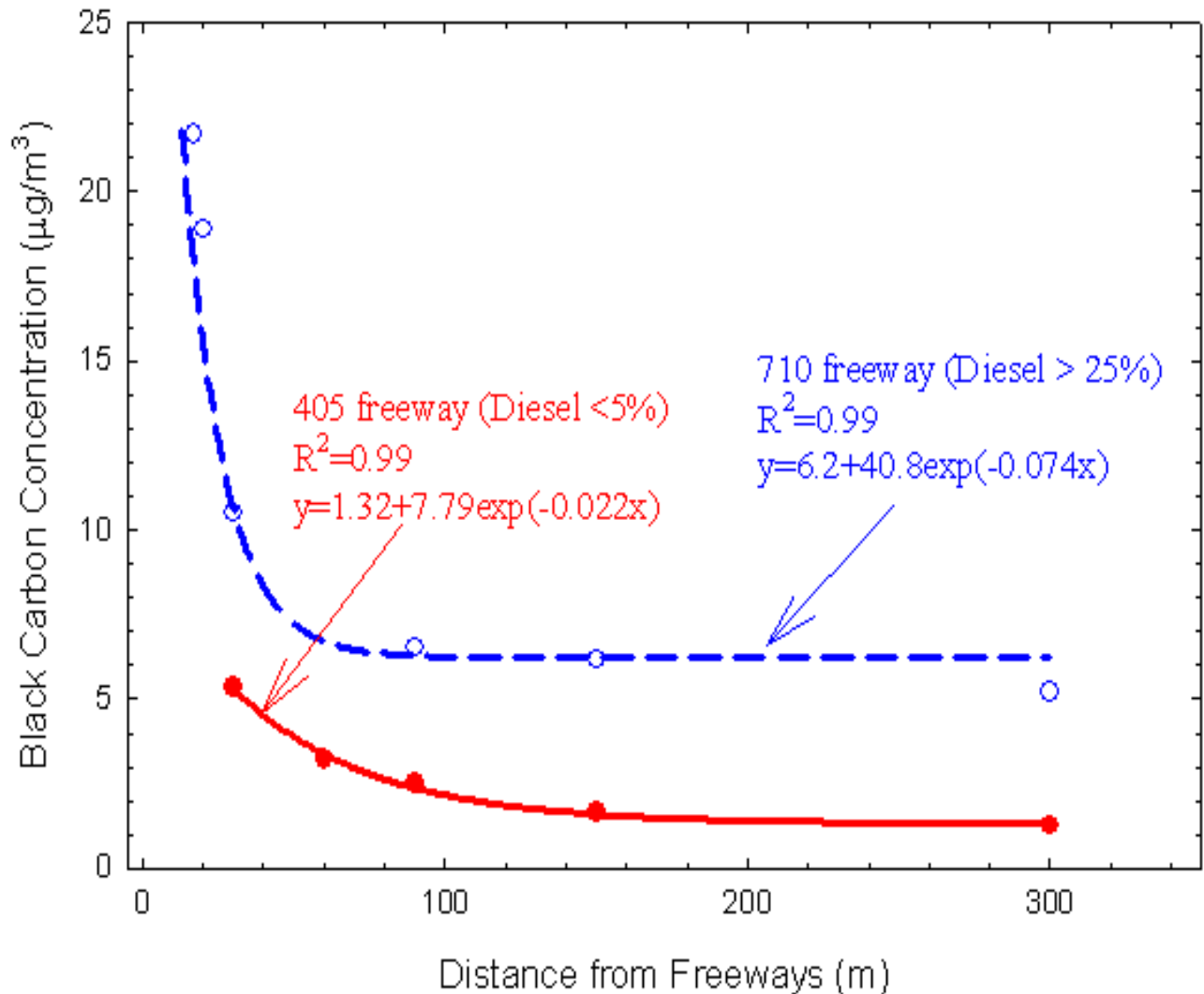


Pollutant Exposures Near Freeways



Zhu et al, 2002

...more
black
carbon
(diesel
marker)
near 710
freeway...

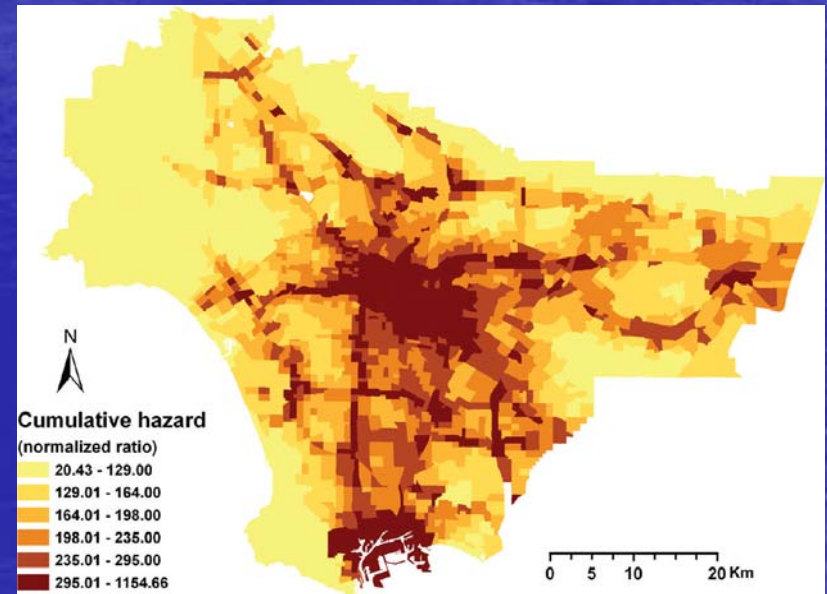
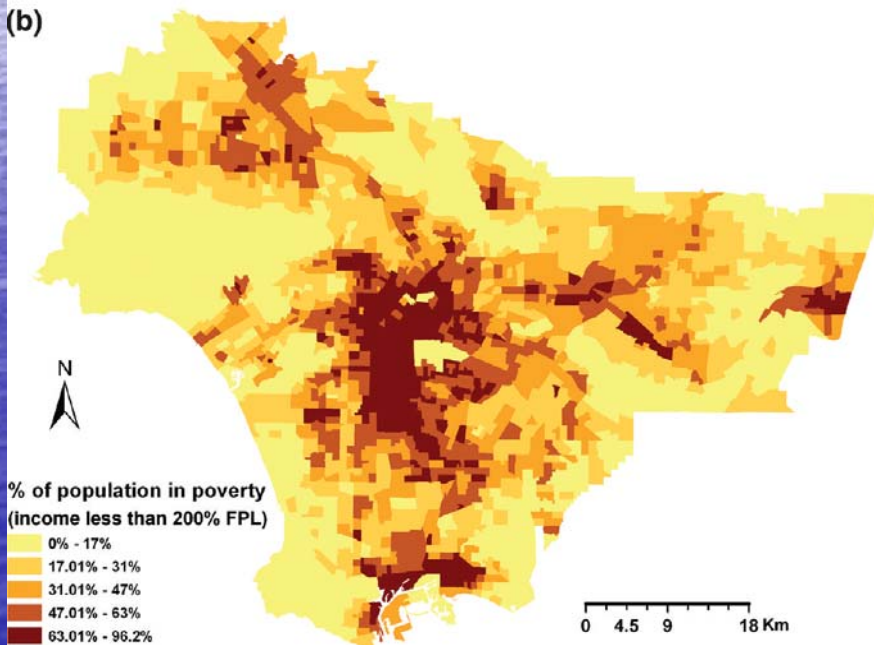
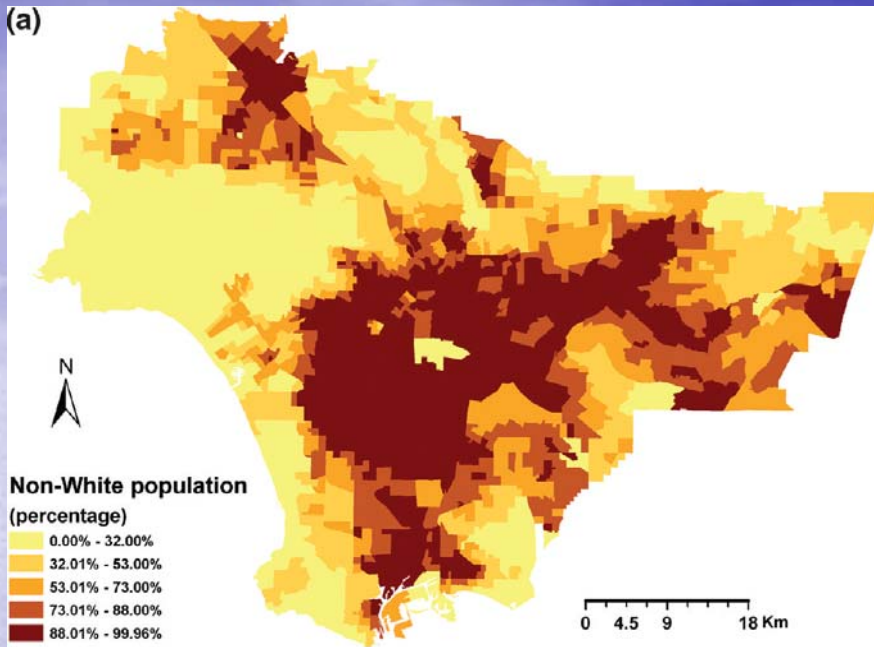


Zhu et al 2002

Real People Live Near Freeways



Cumulative Environmental Hazard Inequality Index (Su et al.)



SB 375

- To obtain maximal co-benefits from changes mandated by SB 375, an interdisciplinary dialogue must be fostered to create an approach that integrates health into regional planning.

Break down the walls!



Summary

- Decreased VMT targets for MPOs can have public health co-benefits, including reduced asthma and cardiovascular disease and increased green space and opportunities for exercise.
- To realize these co-benefits, public health advocates and policy makers need to communicate effectively with urban planners and transportation engineers.